Eupithecia indigata Hb. (Lep.: Geometridae) larvae eating aphids

On the night of 28.v.97, a female Ochreous Pug *Eupithecia indigata* was caught in my garden trap. It was small, with distinct crosslines and a very large discal spot. In the hope (soon dashed) that it might be something rarer, it was kept for eggs. These were laid singly on Scots Pine *Pinus sylvestris* needles. They were oval and slightly flattened, pale cream at first, soon darkening to a deep ochreous yellow. Haggett (*Ent. Rec.* **104**: 39-42) drew attention to the conflicting accounts in the literature by respected observers as to what part of its foodplant the larva of *E. indigata* actually eats, and added his own experiences. Here was an opportunity to rear the species *ab ovis* and see for myself.

The newly-hatched larvae were supplied with sprigs of Scots Pine from the lower branches of a mature tree. During the first instar they fed only on the male inflorescence, which at that time of year was fresh and creamy yellow, not yet shedding pollen. All the frass produced was pale yellow. However, they did supplement their diet. Occasionally, one would be seen clutching a yellowish morsel in the thoracic legs, and munching it like a squirrel with a nut. At first, it was assumed this was a piece of inflorescence, but under a lens it proved to be a tiny aphid. Such behaviour was seen several times. Similar carnivorous feeding habits are known in some Far Eastern species of *Eupithecia,* but apparently have not been reported in Britain before (G.M. Haggett, *in litt.*).

In the second instar, the larvae fed much less on the inflorescence itself, which was now going over. Instead, they were seen to bore shallow pits into its fleshy green central stalk; most of their frass was now pale green. By the time the larvae reached the third instar, in late June, the inflorescence was withered and brown (though the sprigs were changed every few days), and they lost all interest in it. They now fed entirely by boring into the central stalk, more deeply than before.

In their final instar, the larvae bored very extensively into the woody twigs, exactly as described by Haggett (*loc. cit.*), except that they did not enter via the terminal bud, which at this time of year was minute. Although that was the main method of feeding, some larvae had an alternative. Even in early July, the new season's needles were still only halfway out of their sheaths. A larva would bite into the side of a young needle about two-thirds of the way up, and chew right through so that the top third fell away. The remaining portion was then eaten all the way down to its base, leaving most of the needle sheath still standing as an empty tube.

Only four instars were noted in this brood, with dates of the leading larvae as follows:

Eggs laid 30.v.97, hatched from 9.vi.97.

1st instar: length at hatching ca. 2mm, reaching 4.5mm. Greenish or yellowish white with shiny jet-black head and thoracic legs. Oval plate on first thoracic segment dark grey-brown and conspicuous.

2nd instar: from 14.vi.97; reaching length of 7.5mm. Head now dark reddish or blackish brown, thoracic plate reddish brown.

3rd instar: from 20.vi.97; reaching length of 12mm. Head now pale reddish brown, thoracic plate inconspicuous, body striped paler and darker reddish brown.

4th instar: from 30.vi.97; reaching length of 19mm. Spun up from 10.vii.97.

Clearly, the larval feeding habits of *E. indigata* change, depending on instar, the state of the foodplant as governed by time of year, and possibly also on individual preference. To summarise, the larva feeds at first on the young male inflorescence, later by boring shallowly into its stem, and finally by boring into woody twigs. It does not eat the old needles, but sometimes feeds on young needles still partly in sheath. Aphids are eaten if available.

I am grateful to Gerry Haggett for his encouragement to publish this note.– ROY LEVERTON, Whitewells, Ordiquhill, Banffshire AB45 2HS.

Monarch Butterfly *Danaus plexippus* L. (Lep.: Danaidae) in Gwynedd

About midday on 2 October 1997, an unusually warm day, my wife and I, while pottering about in the garden, observed a large butterfly alight on the upper part of a tall privet *Ligustrum* hedge. Not wishing to disturb it we did not approach too closely when, unfortunately, it flew across to a lower wall covered with ivy *Hedera* and brambles *Rubus fruticosus*. We could then see that it was a fine specimen of a Monarch *Danaus plexippus* L.

Sadly, having rested there for a few minutes, it resumed its journey leaving us to congratulate ourselves that we happened to be in the garden at that time.

– R.W. JONES, Tri Brynwcws, Llanaber, Barmouth, Gwynedd LL42 1RR.

Trussed-up social wasp *Vespula* sp. (Hym.: Vespidae) recovering after release from the web of a Common Cross Spider *Araneus diadematus* Clerck (Arach.: Araneidae)

On 7 October 1995 I noticed two social wasps *Vespula* spp. and a Honey Bee *Apis mellifera* L. ensnared and trussed-up in the orb web of a large female Common Cross Spider *Araneus diadematus* Clerck slung between flowering plants on the third floor balcony of our former home in Eppelheim, near Heidelburg, Baden, Germany. While I was looking at them I noticed that one of the wasps was moving within its silken bonds; so I removed it from the web and the silken threads tightly wrapped around it. To my surprise it proved to be unparalysed and very energetic, and flew off quite strongly before I was able to remove from it the last vestige of silk, but not before I had been able to identify it as a German Wasp *Vespula germanica* (Fabricius). As it was already trussed-up when I found it, I do not know if it had received a poisonous bite from the spider. However, I suspect that it had because the other wasp and the Honey Bee were dead.

In this journal (Burton, 1961. **73**: 95-96) I reported how, in September 1960, I removed an adult female Common Green Grasshopper *Omocestus viridulus* (L.) from the orb web of another large spider *A. quadratus* Clerck in my then garden at